REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

By the above amendments, we have canceled claim 24 without prejudice or disclaimer. We have amended claims 3, 9, 12, 16, 17, 26 and 27 to clarify our invention and to address the Examiner's concerns under 35 U.S.C. §112, first and second paragraphs, as outlined in the Office Action dated August 23, 2001. All of the revisions to the claims are fully supported by the original disclosure, and no new matter is introduced. Upon entry of this Amendment, claims 1, 3, 4, 7, 9, 10, 12, 13, 16-20, 22, 23, 26 and 27 will be pending. Entry and consideration are requested.

In the Office Action, the Examiner rejected claims 9, 10, 12, 13, 16-20, 22-24, 26 and 27 under 35 U.S.C. §112, second paragraph. We have canceled claim 24, and have amended claims 9, 16, 17, 26 and 27 as suggested by the Examiner, and request withdrawal of this rejection.

Claims 3, 12, 22, 26 and 27 were rejected under §112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed invention at the time of the invention. Claims 3, 9, 10, 12, 17, 22, 26 and 27 were rejected under §112, first paragraph as non-enabled. We have amended 3, 12, 26 and 27 to limit the Markush grouping of hantaviruses to Seoul virus, Hantaan virus and Dobrava virus. This is believed to address the Examiner's concerns, and withdrawal of these rejections is requested.

Having addressed all of the Examiner's outstanding concerns, we submit that this application is in condition for allowance and notice of such is earnestly solicited.

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MARKED-UP VERSION OF CLAIMS AS AMENDED ABOVE

3. (Amended) The composition of claim 1 wherein said hantavirus is chosen from the group consisting of Seoul virus, Dobrava virus, [Pumuula virus,] and Hantaan virus[, Sin Nombre virus, Black Creek Canal virus, Bayou virus, New York virus, Andes virus, and Laguna Negra virus].

9. (Twice amended) A method for inducing a protective immune response to a hantavirus protein in a mammal comprising

(iv) preparing a nucleic acid encoding a hantavirus [an] M gene segment protein comprising the sequence set forth in SEQ ID NO:1 operatively linked to a promoter active in cells of a mammal, wherein said M gene segment protein includes at least one antigenic determinant [which sequence includes at least one hantavirus protein antigenic determinant which is operatively linked to a promoter operative in cells of a mammal];

(v) coating the nucleic acid in (i) onto inert particles suitable for carrying a polynucleotide stably coated thereon;

(vi) accelerating the particles of (ii) into epidermal cells of the mammal in vivo, to generate an immune response sufficient for protection against a hantaviral challenge in said mammal; [and

(vii) detecting an immune response against viral infection and disease caused by viral infection resulting from (iii) in said mammal upon exposure to a hantavirus].

12. (Amended) The method according to claim 9 wherein said hantavirus is chosen from the group consisting of Seoul virus, Dobrava virus, [Pumuula virus,] and Hantaan virus[, Sin Nombre virus, Black Creek Canal virus, Bayou virus, New York virus, Andes virus, and Laguna Negra virus].

16. (Amended) [The method according to claim 13 wherein said nucleic acid comprises] A method for inducing a protective immune response to a Seoul hantavirus protein in a mammal comprising

(iv) preparing a nucleic acid encoding a Seoul hantavirus M gene segment protein comprising the sequence set forth in SEQ ID NO:1 and the sequence set forth in SEQ ID NO:2, operatively linked to a promoter active in cells of a mammal, wherein said M gene segment protein includes at least one antigenic determinant;

(v) coating the nucleic acid in (i) onto inert particles suitable for carrying a polynucleotide stably coated thereon;

(vi) accelerating the particles of (ii) into epidermal cells of the mammal in vivo, to generate an immune response sufficient for protection against a Seoul hantavirus challenge in said mammal.

17. (Twice amended) A method for inducing a protective immune response to a hantavirus infection in a mammal comprising

(iv) preparing a nucleic acid encoding an M gene segment protein comprising the sequence set forth in SEQ ID NO:1, which sequence includes at least one antigenic determinant of a first hantavirus protein operatively linked to a promoter operative in cells of a mammal;

(v) coating the nucleic acid in (i) onto inert particles suitable for carrying a polynucleotide stably coated thereon;

(vi) accelerating the particles of (ii) into epidermal cells of the mammal in vivo to generate an immune response sufficient for protection in said mammal to a hantaviral challenge comprising a viral isolate distinct from one carrying the sequence set forth in SEQ ID NO:1[; and

(vii) detecting an immune protective immune response against viral infection and disease caused by viral infection resulting from (iii) in said mammal upon an exposure to a second hantavirus].

26. (Twice amended) A vaccine for protection against infection by more than one hantavirus comprising a composition of matter comprising a carrier particle having one or more [DNA sequences] nucleic acids coated [onto] thereon, which nucleic acids comprise DNA sequences that include a [the] promoter operative in the cells of a mammal and a protein coding region coding for an M gene segment protein comprising the sequence set forth in SEQ ID NO:1, which sequence includes at least one antigenic determinant of a hantavirus protein said hantavirus selected from the group consisting of SEOV virus, Dobrava virus, [Pumuula virus] and Hantaan virus[, Sin Nombre virus, Black Creek Canal virus, Bayou virus, New York virus, Andes virus, and Laguna Negra virus].

27. (Twice amended) The vaccine of claim 26, wherein [comprising a] the composition [comprising] comprises a first carrier particle having one or more [DNA sequences] nucleic acids coated onto the carrier particle, wherein said nucleic acids comprise one or more DNA sequences that each comprise a promoter operative in the cells of a mammal and a protein coding region coding for an M gene segment protein comprising the sequence set forth in SEQ ID NO:1, which sequence includes at least one antigenic determinant of a [second] hantavirus, wherein said [different from said first hantavirus, wherein said second] hantavirus is selected from the group consisting of Seoul virus, Dobrava virus, [Pumuula virus,] and Hantaan virus, [Sin Nombre virus, Black Creek Canal virus, Bayou virus, New York virus, Andes virus, and Laguna Negra virus] and a second carrier particle having one or more nucleic acids coated onto the carrier particle, wherein said nucleic acids comprise one or more DNA sequences that each comprise a promoter operative in the cells of a mammal and a protein coding region coding for an M gene segment protein comprising the sequence set forth in SEQ ID NO:1, which sequence includes at least one antigenic determinant of a hantavirus, wherein said hantavirus is selected from the group consisting of Seoul virus, Dobrava virus, and Hantaan virus, wherein the hantavirus corresponding to the antigenic determinant of the nucleic acid of the first carrier particle is different than the hantavirus corresponding to the antigenic determinant of the nucleic acid of the second carrier particle.